

Work Order ID 69273

Friday, May 06, 2011 9:46:56 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 5/6/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 5/19/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: *[Signature]*

Date: 5-5-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D2580-041

Rev.D DEO-D1

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG004

002
[Signature]

N/A

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio 16

Ben/05/12

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

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|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends and remove bending marks

2- Prepare tube for swaging as per QSI 002

1 ~~3~~ 11/05/13

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

DP 11-5-17

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Weld step D2576 as per Dwg. D2580 and QSI004

A/R Aluminum Rod

MI16577

BE 11/05/17

2-Grind welds on step as per Dwg D2580

3-Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x 17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

WELDED BE 11/05/17 A/R MI16577

BE 11/05/17

BE 11/05/24

150

QC10- Inspect visual per QSI004- ground welds

0.00



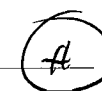
QC

Quality Control

Memo

0.00

S 11/05/24



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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 11/5/24

170



HandFinish

Hand Finishing

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.

1 BL 11-5-25.

180



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

4:00
370°
4:00

1 BL 11-5-25.

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|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Customer:

Reference:

Run Start



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Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 JH 1105126

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

0.00



HandFinish

Hand Finishing

Memo

0.00

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/16/11

Sikaflex expire date: 12/01

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☐ 11/16/11

Sikaflex expire date: 11/16/11

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: 11112315

1 of 22 u/od 20

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

8 11/5/07



220

Packaging

0.00



Packaging

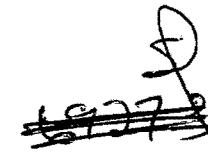
Memo

0.00

Packaging

Identify and pack for shipping as per PPPD205-634-041
Location: _____
PPP Rev: _____

RDP



11/5/07

167037

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/5/31/07

11-05-30
①

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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NOTE: Date & initial all entries

Picklist Print

Friday, May 06, 2011 9:47:02 AM

Page 1

Work Order ID: 69273

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 5/6/2011

Required Date: 5/19/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
 KJ IPP Rev P 10.02.19
 per PAR09-043 EC verified by:DD
 IPP Rev. O 06.02.28 Added paperwork EC
 IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
 10.12.01 as per chg003 DD verf:EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|

~~D4282-1~~ **D2579** Manufactured No 140 Each 443.0000 20 20



Spacer

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG002 | 443 | |
| 66929 | 106 | |
| 67129 | 196 | |
| 67308 | 1 | |
| 67430 | 140 | |

BE 11/05/17
 368737 20

D2580-1 Manufactured No 110 Each 5.0000 1 1



205 Skidtube bent detail

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG | 5 | |
| 67646 | 1 | |
| 67647 | 1 | |
| 68564 | 2 | |
| 68566 | 1 | |

BE 11/05/12

D2576-3 Manufactured No 140 Each 2.0000 1 1



Step (maching detail)

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| LG | 2 | |
| 52215 | 2 | |

BE 11/05/17

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Friday, May 06, 2011 9:47:02 AM

Work Order ID: 69273

Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 5/6/2011



Required Date: 5/19/2011

Start Qty: 1.00

Required Qty: 1.00



| | | | | | | | |
|--|--------------|----|-----|------|---------|---|--------------------------|
| D2855 | Manufactured | No | 200 | Each | 64.0000 | 1 | 1 |
|  | | | | | |  | <u>21</u> <u>u/05/26</u> |
| Cap | | | | | | | |

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| FP007 | 64 | |
| <u>53791</u> | 27 | <u>x1</u> |
| <u>65519</u> | 2 | |
| <u>65569</u> | 35 | |

| | | | | | | | |
|--|-----------|----|-----|------|-----------|---|--------------------------|
| AN3-5A | Purchased | No | 200 | Each | 1,188.000 | 2 | 2 |
|  | | | | | |  | <u>21</u> <u>u/05/26</u> |
| Bolt | | | | | | | |

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| ST350 | 1188 | |
| <u>115371</u> | 388 | <u>x2</u> |
| <u>117423</u> | 800 | |

| | | | | | | | | |
|--|----------------------|-----------|----|-----|------|---|------------------------------------|---|
| AN960JD10L | <u>NAS1149D0332J</u> | Purchased | No | 200 | Each | 0.0000 | 2 | 2 |
|  | | | | | |  | <u>x2</u> <u>21</u> <u>u/05/26</u> | |
| Washer | | | | | | | | |

| | | | | | | | |
|--|-----------|----|-----|------|---------|---|--------------------------|
| ALS7-1032-130 | Purchased | No | 200 | Each | 27.0000 | 50 | 50 |
|  | | | | | |  | <u>21</u> <u>u/05/26</u> |
| Insert | | | | | | | |

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
| ST281 | 20 | |
| <u>117331</u> | 20 | <u>x50</u> |
| ST282 | 7 | |
| <u>116800</u> | 7 | |

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Picklist Print

Friday, May 06, 2011 9:47:03 AM

Work Order ID: 69273



Parent Item: D205-634-041



Parent Item Name: Replacement Skidtube

Start Date: 5/6/2011

Required Date: 5/19/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A

Purchased

No

200

Each

1,984.000

50

50



BOLT



HL 11/05/26

Location

Loc Qty

Loc Code

ST350

1984

117094

984

117313

1000

AN960C10L

NAS1149C0332

Purchased

No

200

Each

0.0000

50

50



washer

HL17291



(x50) HL 11/05/26

D3566-13

Manufactured

No

200

Each

33.0000

1

1



Gasket



HL 11/05/26

Location

Loc Qty

Loc Code

FP014

33

66550

13

68341

20

D3566-5

Manufactured

No

200

Each

49.0000

1

1



Gasket



HL 11/05/26

Location

Loc Qty

Loc Code

FP015

49

67589

16

68961

33

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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Parent Item Name: Replacement Skidtube

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Required Date: 5/19/2011



Start Qty: 1.00

Required Qty: 1.00

| | | | | | | | |
|---|--------------|----|-----|------|---------|---|-------------------|
| D3566-1 | Manufactured | No | 200 | Each | 57.0000 | 2 | 2 |
|  | | | | | |  | <u>XL 4/05/26</u> |
| Gasket | | | | | | | |



| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

| | | |
|-------|----|--|
| FP015 | 57 | |
| 68344 | 18 | |
| 68924 | 39 | |

| | | | | | | | |
|---|--------------|----|-----|------|---------|---|-------------------|
| D3564-11 | Manufactured | No | 200 | Each | 10.0000 | 1 | 1 |
|  | | | | | |  | <u>XL 4/05/26</u> |
| Wearshoe | | | | | | | |



| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

| | | |
|-------|----|--------|
| FP019 | 10 | |
| 68350 | 10 | B69119 |

| | | | | | | | |
|---|--------------|----|-----|------|---------|---|-------------------|
| D3564-13 | Manufactured | No | 200 | Each | 30.0000 | 1 | 1 |
|  | | | | | |  | <u>XL 4/05/26</u> |
| Wearshoe | | | | | | | |

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

| | | |
|-------|----|--|
| FP017 | 30 | |
| 66136 | 15 | |
| 66549 | 1 | |
| 66805 | 14 | |

| | | | | | | | |
|---|--------------|----|-----|------|---------|---|-------------------|
| D3564-9 | Manufactured | No | 200 | Each | 13.0000 | 1 | 1 |
|  | | | | | |  | <u>XL 4/05/26</u> |
| Wearshoe | | | | | | | |

| <u>Location</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|-----------------|----------------|-----------------|
|-----------------|----------------|-----------------|

| | | |
|-------|----|---------|
| FP019 | 13 | B68 349 |
| 67590 | 13 | |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Picklist Print

Friday, May 06, 2011 9:47:04 AM

Work Order ID: 69273

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 5/6/2011

Required Date: 5/19/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5
Wearshoe

Manufactured No

200 Each

34.0000

1

1



u105126

Location

Loc Qty

Loc Code

FG

2

34806

2

FP019

32

67588

12

68960

20

x1

D2594-3
O-Ring, 205 Skidtube

Manufactured No

200 Each

1,208.000

16

16



u105126

Location

Loc Qty

Loc Code

FP-A

1208

65518

240

66952

968

x16

D2594-1
Plug, 205 Skidtube

Manufactured No

200 Each

307.0000

16

16



u105126

Location

Loc Qty

Loc Code

FP-A

307

42807

28

66122

98

66932

174

67441

7

B68943

x16

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

DART

| | | | |
|----------------------------|-----------------------------|--|------------------------|
| DESIGN <i>[Signature]</i> | DRAWN BY <i>[Signature]</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>[Signature]</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D2580 | REV. D SHEET 1 OF 3 |
| DATE 07.02.27 | | TITLE 205 SKIDTUBE ASSEMBLY | SCALE NTS |
| A | 96.09.16 | NEW ISSUE | |
| B | 96.12.02 | AS MANUFACTURED | |
| C | 98.08.26 | REDRAWN, INCLUDED DEO 9094/9097 | |
| D | 07.02.27 | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 | |

RELEASED
07.06.28 *[Signature]***DEO ATTACHED**

| QTY -041 | QTY -045 | Part Number | Description |
|-------------|-------------|---|-------------------|
| X | | D2580-041 | SKIDTUBE ASSEMBLY |
| | X | D2580-045 | SKIDTUBE ASSEMBLY |
| 1 | 1 | D2500-1-190 | EXTRUSION |
| 1 | 1 | D2576-3 | STEP |
| 20 | 24 | D2579 | CROSS BOLT SPACER |
| 16 | 16 | D2594-1 | PLUG |
| 16 | 16 | D2594-3 | O-RING |
| 1 | 1 | D2596 | 205 WEB |
| 1 | 1 | D2855 | AFT CAP |
| 1 | 1 | D3564-5 | WEARSHOE |
| 1 | 1 | D3564-9 | WEARSHOE |
| 1 | 1 | D3564-11 | WEARSHOE |
| 1 | 1 | D3564-13 | WEARSHOE |
| 2 | 2 | D3566-1 | GASKET |
| 1 | 1 | D3566-5 | GASKET |
| 1 | 1 | D3566-13 | GASKET |
| 50 | 50 | ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130 | INSERT |
| 50 | 50 | AN3C4A | BOLT |
| 2 | 2 | AN3-5A | BOLT |
| 50 | 50 | AN960C10L | WASHER |
| 2 | 2 | AN960JD10L | WASHER |

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. *69273*

11-05-6

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

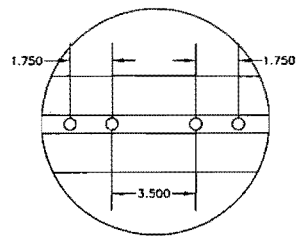
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

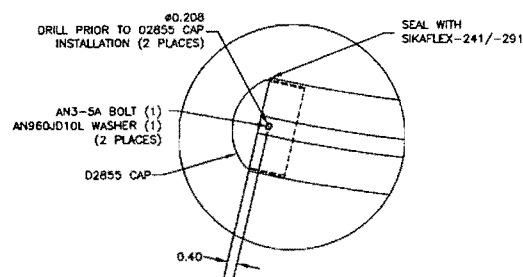
DETAIL A
SCALE 5:24



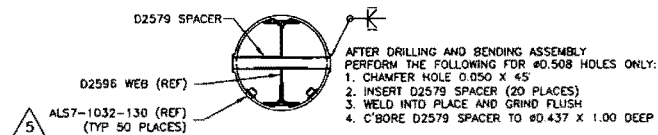
RELEASED
07-06-28

DEO ATTACHED

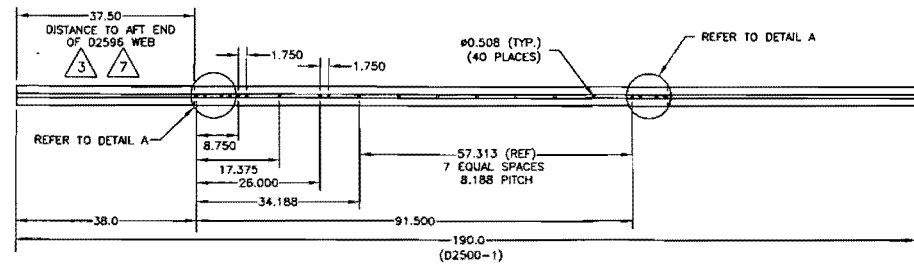
DETAIL C
SCALE 5:24



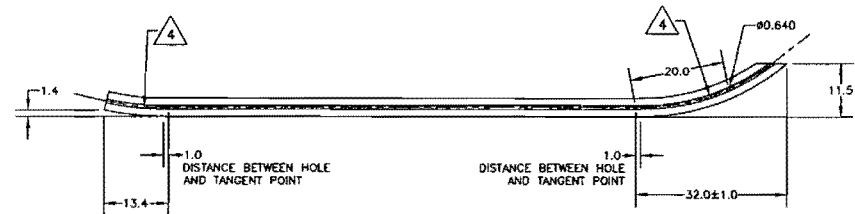
SECTION D-D
SCALE 5:24



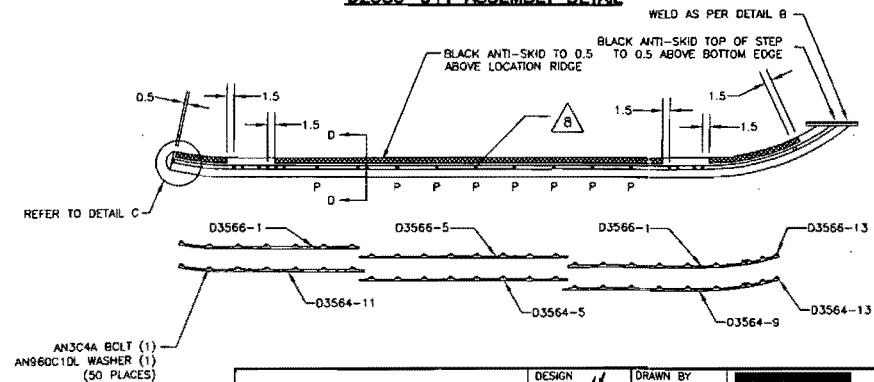
D2580-1 DRILLING DETAIL



D2580-1 BENDING AND CUTTING DETAIL



D2580-041 ASSEMBLY DETAIL



| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

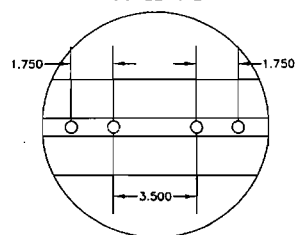
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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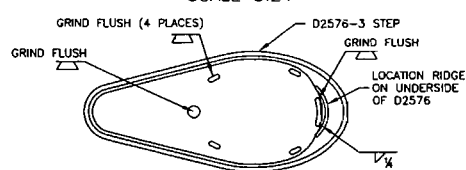
NOTE: Date & initial all entries

u/o 69223

DETAIL E
SCALE 5:24



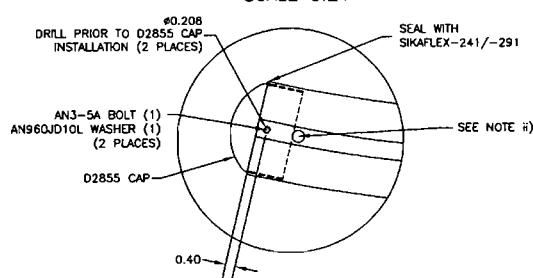
DETAIL F
SCALE 5:24



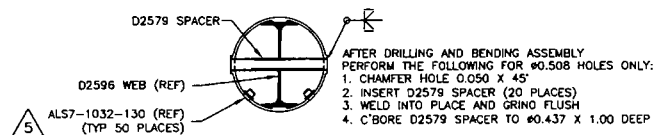
RELEASED
07-16-18

DEO ATTACHED

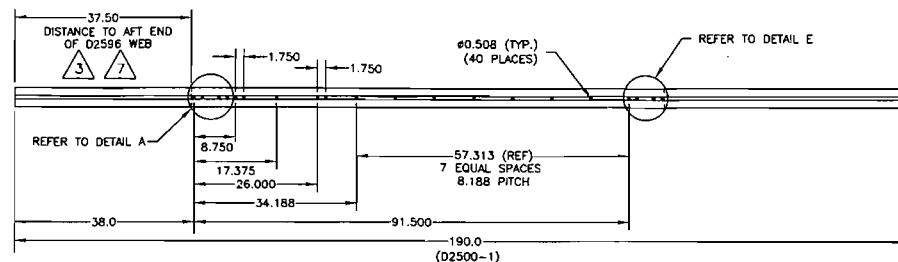
DETAIL G
SCALE 5:24



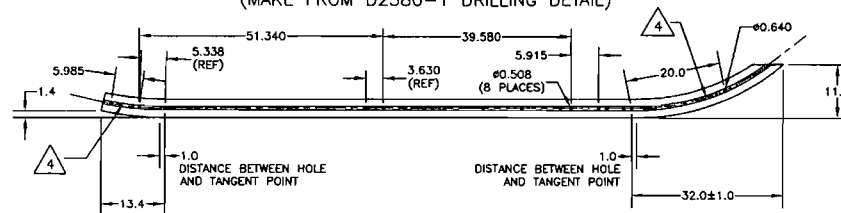
SECTION H-H
SCALE 5:24



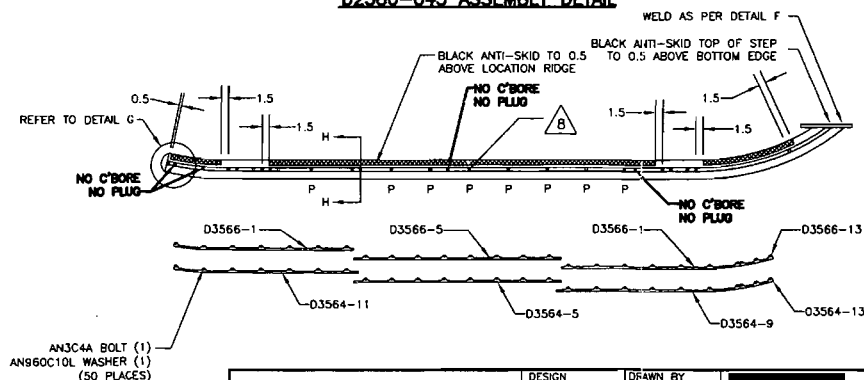
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



D2580-045 NOTES

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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|------------------|--------------------------------|----------------------|--|
| DESIGN RH | DRAWN BY RH | DART | DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA |
| CHECKED H | APPROVED H | DRAWING NO. D2580 | REV. 0 SHEET 3 OF 3 |
| DATE 07.02.27 | TITLE 205 SKIDTUBE ASSEMBLY | SCALE 1:24 | |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
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| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

Linda Lacelle

From: dshepherd@dartaero.com
Sent: April 18, 2011 11:36 AM
To: Linda Lacelle; Mike Petsche
Cc: Bill Beckett; 'Chris Provencal'; 'Eric Charbonneau'
Subject: Re: Alum. Solution Anneal - swaging

Makes sense to me ... We don't want to get caught short ... Make sure that if we do this, they are identified with the old CHG number.

David

Sent from my BlackBerry device on the Rogers Wireless Network

From: "Linda Lacelle" <llacelle@dartaero.com>
Date: Mon, 18 Apr 2011 11:21:10 -0400
To: 'Mike Petsche' <mpetsche@dartaero.com>; <dshepherd@dartaero.com>
Cc: 'Bill Beckett' <bbeckett@dartaero.com>; 'Chris Provencal' <cprovencal@dartaero.com>; 'Eric Charbonneau' <echarbonneau@dartaero.com>
Subject: RE: Alum. Solution Anneal - swaging

I am ready to weld some up, I don't want to get into trouble with L/T's on these, any objections??
LL

From: Mike Petsche [mailto:mpetsche@dartaero.com]
Sent: April 18, 2011 10:42 AM
To: 'Linda Lacelle'; dshepherd@dartaero.com
Cc: 'Bill Beckett'; 'Chris Provencal'; 'Eric Charbonneau'
Subject: RE: Alum. Solution Anneal - swaging

Well I'm not sure what to say.

CHG ~~CC7~~ D2579

It is my understanding that the swaging will still make sense even with the extra hoops we need to jump through.

If there is still uncertainty on the delivery of the material, we CAN still weld them if we need to.

And while this might be less than "world class", couldn't we take some of our tubing that we have in stock and zap it with the welder to knock down the temper a little? Ground clamp on one end, torch on the other.....BZZZZZZT.

(I'm only sort of joking....because I bet it would work)

From: Linda Lacelle [mailto:llacelle@dartaero.com]
Sent: April 18, 2011 9:44 AM
To: dshepherd@dartaero.com; 'Mike Petsche'
Cc: Bill Beckett; Chris Provencal; Eric Charbonneau
Subject: RE: Alum. Solution Anneal - swaging
Importance: High

NO. 251

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 68708 - 68708
Part number: 205 - 634 - 041
Description: 205
Welding Process: Tig[] Mig[]
Base material: Aluminum
Current: AC[] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[] fail[]
Penetration: pass[] fail[]

UNACCEPTABLE

Cracks: pass[] fail[]
Undercut: pass[] fail[]
Pin holes: pass[] fail[]
Overlap (cold lap): pass[] fail[]
Porosity (surface): pass[] fail[]
Coloration: pass[] fail[]

Qualifier Ratz Evers Date of Test Coupon 11-05-05
Welder Barclay Elliott Date of Test Coupon 11-05-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

